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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,643	12/12/2003	Daigo Ohtoyo	Q78697	1637
23373	7590	09/23/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			KWOK, HELEN C	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,643

Applicant(s)

OHTOYO ET AL.

Examiner

Helen C. Kwok

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date December 12, 2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 1-16 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 3, the phrase "the center" should be changed to – a center --. In line 9, the phrase "the center" should be changed to – a center --.

In claim 6, line 3, the phrase "the center" should be changed to – a center --. In line 8, the phrase "the center" should be changed to – a center --.

In claim 11, line 3, the phrase "the center" should be changed to – a center --. In line 9, the phrase "the center" should be changed to – a center --.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3, 5, 14 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, line 5, the phrase "the side surfaces" lacks antecedent basis. There is only 1 side surface claimed. In line 8, the phrase "the inner side surfaces" lacks antecedent basis. There is only 1 inner side surface claimed. In line 9, the phrase "the inner side surfaces" lacks antecedent basis.

In claim 14, line 4, the phrase "the side surfaces" lacks antecedent basis. There is only 1 side surface claimed. In line 8, the phrase "the inner side surfaces" lacks antecedent basis. There is only 1 inner side surface claimed. In line 9, the phrase "the inner side surfaces" lacks antecedent basis.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 11-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,6-11 and 14-15 of copending Application No. 10/717,476. Although the conflicting claims are not identical, they are not patentably distinct from each other because all of the elements presently claimed in the instant Application are claimed in the copending Application. Hence, the instant Application 10/733,643 is not patentably distinct from the copending Application 10/717,476.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,485,749 (Nohara et al.).

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Nohara et al. discloses an acceleration sensor comprising, as illustrated in Figures 10A-10C, a mass portion; a top plate fixed on an upper end of the mass portion; a rectangular support frame; four elastic support arms bridging the mass portion; strain gauges formed on the support arms. (See, column 9, line 8 to column 10, line 9).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-5 and 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,485,749 (Nohara et al.) in view of U.S. Patent 6,263,735 (Nakatani et al.) and JP 4-274005 (Miyano).

With regards to claim 2, Nohara et al. does not disclose grooves on the mass and the frame. Nakatani et al. discloses an accelerometer comprising, as illustrated in Figure 16, grooves formed on the mass and the frame. (See, column 7, line 1 to column 8, line 49). It would have been obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of employing grooves onto the mass and frame as suggested by Nakatani et al. to the sensor of Nohara et al. to provide protection to the mass and the frame when an

external force/pressure is applied such that the thick frame will absorb the force/pressure.

With regards to claim 3, Nohara et al. further discloses the arrangement and dimensions of the mass and frame. (As observed in the figure).

With regards to claims 4-5, the references do not explicitly specify such parameters and dimensions for the grooves. However, to have set such test characteristics as in these claims by one skilled in the art at the time of invention would have been obvious to recognize that such modification and variations can be made based on experimentations without departing from the scope of the invention.

With regards to claims 7-10, the claims are commensurate in scope with claims 2-5 and are rejected for the same reasons as set forth above.

With regards to claims 11-16, the claims are commensurate in scope with claims 1-5 and are rejected for the same reasons as set forth above. In addition, the only difference between the prior art and the claimed invention is a paste made of hard plastic balls with adhesive is used for bonding. Miyano discloses an accelerometer sensor comprising, as illustrated in Figures 1-2, a paste 6 made of adhesive 11 and fine spherical particles 10. (See Abstract). It would have been obvious to a person of ordinary skills in the art at the time of invention to have readily recognize the advantages and desirability of employing the paste made of an adhesive and balls to the apparatus of Nohara et al. to provide a sensor of eliminating not only processes required to create gaps stoppers across the mass, but also processes which the stoppers might be subject to for effecting adhesion to the sensor chip. Also, to absorb

external force/pressure applied to the sensor while the paste will not spread outside of the grooves to the mass, frame and support arms.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The reference cited is related to an accelerometer sensor having piezoresistive elements.

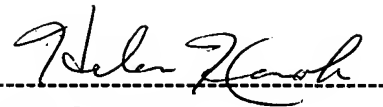
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in cursive script, appearing to read "Helen Kwok", is written over a horizontal dashed line.

Helen C. Kwok
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hck:
September 17, 2004